

Environmental Assessment Template

Before beginning to prepare an environmental assessment (EA), the project or program representative must contact Beth Montgomery of the Safety and Environmental Branch (Code 205.2) for guidance and to determine if an EA is necessary. If an EA for a *program* has been prepared and approved and the finding is that there is no significant impact, then the projects within that program most likely do not need to prepare an EA. Additionally, NASA Headquarters is in the process of preparing an EA for NASA Routine Payloads. It is anticipated that this EA will be completed in July 2002. If a project qualifies as a NASA Routine Payload, it need not prepare an independent EA after the NASA Routine Payload EA has been released. In the rare cases that a project needs to prepare the more rigorous Environmental Impact Statement (EIS), Code 205.2 will also provide guidance.

The preparer should also consult NASA Procedures and Guidelines 8580.1, “[Implementing The National Environmental Policy Act And Executive Order 12114](#).”

The EA process should be integrated early in project planning. It is recommended that the EA process be completed before final design is approved.

A Finding of No Significant Impact (FONSI) document is issued by NASA. It is prepared by the program or project in question and is signed by the Center Director. A sample FONSI can be found at the conclusion of this template.

Code 205.2 provides the following general guidance:

“In accordance with NASA Regulations (14 CFR Part 1216 Subpart 1216.3) all flight projects are subject to the National Environmental Policy Act (NEPA). This law requires that environmental impacts be considered in project planning and decision-making.

“Project Managers are responsible for ensuring compliance with NEPA. The Safety and Environmental Branch (Code 205.2) will provide support and assistance to Project Managers in implementing the NEPA process.

“The NEPA process must be initiated early in the project planning stages during Formulation. Project Managers should contact the Safety and Environmental Branch (Code 205.2), NEPA Coordinator at x60469 early in the project development. An environmental evaluation or preliminary review (using a comprehensive checklist) will be performed to determine the appropriate level of NEPA review/documentation required (Categorical Exclusion (CATEX), Environmental Assessment (EA), or Environmental Impact Statement (EIS)). As part of this evaluation it will be determined if the project qualifies as a NASA Routine Payload and, thus, be covered under the Environmental Assessment for NASA Routine Payloads.

The preparer should also consult NASA Procedures and Guidelines 8580.1, NASA Procedures and Guidelines for Implementing the National Environmental Policy Act and Executive Order 12114.” This document is available from Code 205.2. This NPG includes a sample EA, FONSI, and other documents associated with the process.

Editorial Suggestions

The following recommendations reflect NASA policy and will improve the NEPA process. The preparers of an EA should:

- Write in plain language, write clearly at a level the decision maker and the public can understand; language should be non-judgmental and objective
- Tense: since this document addresses *proposed actions*, tense should be conditional whenever discussing the proposed action, e.g., “processing and launching activities *would have* potential air quality impacts.”
- Text font should be 12 point (using the largest reasonable type font)
- Use easy-to-follow graphics and tables to summarize data and show correlations; do not confuse the reader
- Provide graphs that use the same axes and scales whenever possible
- Use maps and drawings that show all features (avoid extraneous information) needed to understand the environmental issues: use directional arrows and scale indicators
- Write all measurements in *metric units* with British system equivalents in parentheses except when (a) there is a regulatory standard that is only expressed in one system or (b) the numbers are in a table or figure where using both systems would create too much clutter or confusion.
- Determine early in the analytic process how significant digits will be handled in the expression of numerical results; be sure all technical writers are using the determined convention.
- Provide an abbreviations and acronyms section if warranted; provide a glossary of technical terms when jargon or specialized meanings are used
- Remember that an EA is a pre-decisional document; the EA should not contain the ultimate decision or a determination that individual or cumulative impacts are or are not significant
- Consider appendices, if applicable; these can be written more technically than the main body of the text
- Avoid the use of terminology such as "significant," "not significant," or "insignificant" when applied to environmental impacts; these determinations are reserved for the FONSI or decision to prepare an EIS.
- The FONSI document must be written with two spaces following the period at the end of each sentence and will be turned back if this convention is not followed. This is not necessary for the EA.

RECOMMENDED FORMAT AND CONTENT OF AN EA

All NASA EAs should contain a title page with the recommended elements. The title page provides essential information: name of the Sponsoring Entity proposing the action, the specific NASA point of contact for the EA, and a brief abstract of the EA.

Sample Title Page

ENVIRONMENTAL ASSESSMENT FOR [NAME OF ACTION, LOCATION (e.g., CITY, COUNTY, STATE, ETC.)]

Lead Agency: National Aeronautics and Space Administration, [Name of Sponsoring Entity and name(s) of cooperating agency(s) if appropriate]

Proposed Action: Succinct statement of proposed action

For Further Information: Name, title, address, phone number of NASA Point of Contact

Date: Date document is finalized and available for public inspection

Abstract: Brief abstract of the Environmental Assessment, stating proposed action, alternatives examined, and summary of key information. Do not make any conclusions regarding the advisability of a “Finding of No Significant Impact” (FONSI) or “Notice of Intent” (NOI). (The Abstract can be printed on a separate page after the Title Page, but should be brief—**no more than one or two paragraphs.**)

Typical Table of Contents for an Environmental Assessment

SECTION	PAGE
ABBREVIATIONS AND ACRONYMS	
EXECUTIVE SUMMARY	
1.0 PURPOSE AND NEED	
Subsections as needed	
2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES	
2.1 Proposed Action	
Subsections as needed	
2.2 Other Alternatives	
Subsections as needed	
2.3 No-Action	
Subsections as needed	
3.0 EXISTING ENVIRONMENT	
4.0 ENVIRONMENTAL CONSEQUENCES OF ALTERNATIVES	
4.1 Proposed Action	
Subsections as needed	
4.2 Other Alternatives	
Subsections as needed	
4.3 No-Action	
Subsections as needed	
5.0 MITIGATION AND MONITORING	
Optional if needed	
6.0 AGENCIES AND INDIVIDUALS CONSULTED	
Organize by federal, state, local, members of the public	
7.0 LIST OF PREPARERS	
8.0 REFERENCES	
APPENDICES if applicable	
FIGURES	
TABLES	

Executive Summary

Although not specifically required by CEQ or NASA regulations, NASA EAs should normally contain an Executive Summary. The Executive Summary is normally no more than **three pages** in length and contains brief synopses of the following information: the underlying purpose and need for NASA action; description of the proposed activity or action; description of each reasonable alternative addressed in the EA, including No-Action alternative; summary of the principal environmental issues assessed and the results; the extent of public and agency consultation used in preparing the EA; and a summary of major mitigation commitments. No conclusory statements regarding preference for alternatives or the applicability of a Finding of No Significant Impact (FONSI) should be made.

The Executive Summary should be consistent with the information in the EA, address the entire document rather than just one part, and emphasize the differences in environmental impacts of the alternatives.

1.0 Purpose and Need

This section sets the stage for assessment of the alternative courses of action addressed in the EA (i.e., proposed action, reasonable alternatives, and No-Action). It should define the purpose and need for NASA action, not for the proposed action or the preferred alternative. The purpose and need is the problem or opportunity to which NASA is responding. This section should also establish the basis for evaluation of alternatives (i.e., what do the alternatives need to be capable of accomplishing).

An appropriate statement of purpose and need for a hypothetical example could be—"NASA Center X needs to meet stringent new wastewater effluent criteria for pollutants A, B and C recently promulgated in EPA regulations under revisions to the Clean Water Act." An inappropriate statement of purpose and need in this example would be—"NASA needs to construct a new centralized wastewater effluent treatment system capable of meeting revisions to the Clean Water Act for pollutants A, B, and C."

2.0 Description of Proposed Action and Alternatives

This section should contain concise statements of the proposed action and reasonable alternatives (including No-Action). Given the hypothetical statement of purpose and need provided in (b) above, the proposed action and alternatives statements could take the following form:

- NASA Center X proposes to collect/consolidate its wastewater effluent streams containing pollutants A, B, and C, and to construct a new centralized treatment facility at Site X, capable of meeting revised Clean Water Act effluent standards for those pollutants.

Alternatives could take the form of:

- Alternative 1: NASA would expand and renovate each of its three existing wastewater treatment facilities to meet the revised Clean Water Act effluent standards for pollutants A, B, and C.
- Alternative 2: NASA would construct three new wastewater treatment facilities, each capable of meeting the revised Clean Water Act effluent standards for pollutants A, B, and C.
- Alternative 3: NASA would modify its existing processes to meet the revised effluent standards without modifying or constructing wastewater facilities.
- No Action.

The proposed action should then be described in sufficient detail to allow key environmental issues and impacts to be assessed and compared to those of the alternatives. Too much or too fine a level of detail is to be avoided, just as too general and vague a description should be avoided. Save details for those areas of the proposal that have a bearing on important or key environmental issues that will drive the decision whether or not an Environmental Impact Statement (EIS) is needed. Try to confine details to those elements that influence the magnitude of the environmental impacts. In addition, too much irrelevant detail can limit future flexibility in implementing the chosen action.

Alternatives considered in an EA should focus on those relevant to the purpose and need. As with all alternatives evaluated in NEPA documents, the alternatives in an EA should be reasonable (i.e., technically and economically feasible) and available within the timeframe of the action. Potential alternatives reviewed, but not considered further in the EA either because they could not accomplish the purpose and need, or had a major environmental flaw should be noted, and the reasons concisely identified. (Following the previous examples--Sites Y and Z were considered as alternative locations but would have required construction within a wetland area for which no mitigation is possible (Site Y) or would entail permanent loss of critical habitat for resident species (Site Z)].

The level of detail describing this does not have to parallel that of the proposed action, but should be sufficient to make comparisons with the environmental impacts of the proposed action. The same guidance applies to the No-Action alternative. No-Action alternatives very often have environmental impacts. For new projects, No-Action can mean doing nothing, while for changes to ongoing activities, No-Action can mean continuing with the present course of action. As with the other alternatives, the description of No-Action should be detailed enough so its scope is clear and its impacts can be compared with those of the proposed action and other alternatives.

Certain EAs (e.g., exceptional actions) may deal with proposed actions that could have greater potential for substantial impact on the human environment, or may have the potential for heightened technical controversy on a nationwide basis. In cases such as these, a broader array of alternatives may need to be described, possibly in greater detail than would normally be the case

3.0 Existing Environment

The description of the existing environment should be brief, focusing on those elements of the environment likely to be affected by the proposed action and alternatives, including No-Action. The level of detail should be sufficient to provide the base against which environmental impacts can be addressed. For example, if a proposed action and alternatives would not impact groundwater resources, do not put time and detail into describing that aspect of the environment. If environmentally sensitive or protected resources (e.g., historic sites or endangered species) will be impacted, address them in this section of the EA. For more detailed information, readers can be referred to other available documentation (e.g., Environmental Resources Document, other existing NEPA documents, etc.).

4.0 Environmental Impacts of Alternatives

Because an EA deals principally with evaluating environmental impacts of the proposed action and making a decision whether the proposed action requires an EIS, the focus of this EA section is the proposed action. Impacts should be discussed in proportion to their potential significance, with clearly insignificant impacts noted providing only enough information to indicate why further analyses are not needed. Both direct and indirect impacts should be addressed

For some EAs that address more complex actions (e.g., exceptional case EAs), it is also useful if this section contains a summary comparison of the impacts of the proposed action and alternatives to help more sharply define differences for the decision-maker. A matrix of alternatives versus environmental category (e.g., air quality, geology, biology) is often useful in making this comparison. To the extent possible, comparisons should be made in quantitative rather than qualitative terms.

Cumulative impacts of the proposed action shall also be addressed to determine significance. The potential exists for a proposed action that individually has insignificant impacts to result in significant impacts when combined with those of other reasonably foreseeable actions occurring in the same affected area and at the same time

The discussion of the impacts of alternatives should also focus on those with the potential to be substantial. This discussion does not need to be at the same level of detail as the proposed action, rather it should be sufficient to enable meaningful comparison with the proposed action

If a proposed action has or is likely to have a high level of environmental controversy, the impact analyses associated with the proposed action and alternatives should be commensurately more detailed.

In rare cases, information needed to evaluate a key environmental issue in an EA will not be available or has not yet evolved to a stage where it can be used. Instances such as these are subject to special treatment.

For straightforward uncomplicated EAs with only a few issues of potential environmental concern, combining the Existing Environment Section and the Environmental Impacts of Alternatives Section may improve understanding while promoting brevity.

5.0 Mitigation and Monitoring *(optional if needed)*

Mitigation and monitoring measures that need to be employed to reduce the magnitude of, or to avoid the environmental impacts of the proposed action and alternatives, should be addressed in this chapter as well. Mitigation measures incorporated into the action that support a FONSI become commitments on the part of NASA and shall be reflected in the FONSI and implemented.

[NOTE: Mitigation is important. Mitigation can often avoid a substantial impact, or reduce the impact to an insignificant level, thus preserving the ability to recommend a FONSI.]

6.0 Agencies and Individuals Consulted

During preparation of EAs, it may be advisable or necessary to consult with or seek comments of other Federal, state, regional and local agencies, organizations, or members of the public who could be affected by the proposed action, have special expertise in an area of environmental concern, or have jurisdiction by law over all or parts of the proposed action. Early involvement can avoid unpleasant surprises when an EA and/or FONSI is made available for public review and comment. Indian tribes must be consulted if tribal lands would be affected. This chapter should list all agencies, organizations, and individuals contacted and consulted during EA preparation. This consultation list does not include entities within NASA or under contract to NASA with respect to the proposed action. It is not required that the recipients of informational or complimentary copies (e.g., copies sent to senators or congresspersons) be listed in this section of the EA.

These contacts and consultation also become part of the administrative record. The administrative record should include records documenting all such contacts and consultation throughout the EA preparation process. Any agreements made in these consultations, alternatives suggested or environmental concerns voiced should be documented and tracked through EA preparation to ensure they are addressed within the document, or if they are not--why not. Underlying documents or studies provided by agencies consulted that have a bearing on the decisions to be made, alternatives or impacts to be addressed, or compliance with other statutory requirements must be retained in the administrative record.

The extent of consultation and involvement in EA preparation should be consistent with the magnitude and complexity of the proposed action and its potential environmental effects. The potential for controversy regarding environmental issues will also be a determinant in the extent and level of consultation.

In addition, a separate mailing list should be maintained for use in distribution of the EA and/or the decision document (FONSI or NOI). It should contain all agencies and individuals consulted and their complete addresses, as well as the names and addresses of other interested parties who have requested copies, or who the Sponsoring Entity feels would be interested in, or should have access to the EA and/or FONSI.

7.0 List of Preparers

This section should include the primary authors of the EA with their organization and contribution. Authors of supporting studies and analyses should be listed also.

8.0 References

All references cited in the EA (except classified references and otherwise restricted or proprietary materials) must be listed.

It is also recommended that the Sponsoring Entity ensure that a copy of each cited reference be in its possession (or the possession of its NEPA contractor), or is available at a public repository.

CEQ regulation [40 CFR 1506.6(f)] requires that underlying documents be made available to the public pursuant to the provisions of the Freedom of Information Act (5 U.S.C, 522). Underlying documentation refers to studies and analyses prepared specifically in support of the NEPA document. It also includes interagency memoranda, where the memoranda transmit comments of a Federal agency on the environmental impact of a proposed action. It may also include other official NEPA documents that are incorporated in whole or in part into the NEPA document being prepared. Underlying documents do not include general references in the open literature that may be cited such as textbooks, or published reports; and analyses prepared for other purposes.

Care should be taken to avoid infringement of copyright laws. Copyrighted references should not be copied and distributed to the public: rather, sufficient information regarding the provenance of each copyrighted reference should be provided to enable an interested member of the public to obtain the document either from the publisher or from a public repository.

Occasionally, outside parties may request access to some or all of the references. By having all cited materials in possession, the Sponsoring Entity can reply to such requests on a timely basis. Again, care should be taken to avoid infringement of copyright laws.

Appendices

Appendices are generally unnecessary in an EA, largely because an EA is a "concise" document. However, should appendices be necessary, they should contain information that supports the content of and the results presented in the EA, (e.g., the modeling conducted for the assessment of a potentially significant impact or an area of concern). Appendices are also appropriate for analyses prepared under other environmental reviews requirements (e.g., a biological assessment for an endangered species), and for written communications from other agencies, especially communications that contain agency conclusions regarding potentially significant impacts and key environmental issues

Sample Finding of No Significant Impact (FONSI)

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

NOTICE: 00-GSFC-03

National Environmental Policy Act; POES NOAA-L and NOAA-M Mission

AGENCY: NASA Goddard Space Flight Center

ACTION: Finding of No Significant Impact

SUMMARY: Pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended (42 U.S.C. 4321, *et seq.*), the Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (40 CFR Parts 1500-1508), and NASA policy and procedures (14 CFR Part 1216 Subpart 1216.3), NASA has made a Finding of No Significant Impact (FONSI) with respect to the proposed Polar Operational Environmental Satellites (POES) NOAA-L and NOAA-M missions. The missions involve the processing and launching of the NOAA-L and NOAA-M spacecraft. The NOAA-L spacecraft would be launched from Vandenberg Air Force Base, California using a Titan II launch vehicle in August 2000. The NOAA-M spacecraft would be launched from Vandenberg Air Force Base, California, using a Titan II launch vehicle in May 2001. NOAA-L and NOAA-M are part of the NOAA TIROS-N series of meteorological satellites that continue to provide a platform for instruments that monitor the Earth's atmosphere. These polar-orbiting satellites provide cost-effective data for very immediate and real needs and also for extensive climate and research programs. The satellites also support the Search and Rescue Satellite Aided Tracking part of the COSPAS-SARSAT constellation. The international COSPAS-SARSAT system provides for the detection and location of emergency beacons for ships, aircraft, and people in distress and has contributed to saving more than 10,000 lives since its inception in 1982. The POES Program is part of NASA's Earth Science Enterprise and is managed by NASA Goddard Space Flight Center. POES spacecraft have a minimum expected operational lifetime of 2 years.

DATE: Comments in response to this notice must be provided in writing to NASA within 30 days after publication of this notice.

ADDRESSES: Written comments should be addressed to Ms. Patricia Dunn, Goddard Space Flight Center, Code 480, Greenbelt, Maryland 20771. The Environmental Assessment (EA) prepared for this mission which supports the FONSI may be viewed at:

- (a) NASA Headquarters, Library, Room 1J20, 300 E Street SW, Washington, DC 20546 (202-358-0167)

- (b) NASA, Goddard Space Flight Center, Greenbelt, MD 20771
(301-286-0840)
- (c) Lompoc Public Library, 501 East North Avenue, Lompoc, CA 93436-3406
- (d) Santa Maria Public Library, 420 South Broadway, Santa Maria, CA 93454-5199
- (e) Santa Barbara Public Library, 40 East Anapamu Street,
Santa Barbara, CA 93101-2000
- (f) University of California, Santa Barbara Library, Government Publications
Department, Santa Barbara, CA 93106-9010

A limited number of copies of the EA are available on a first request basis by contacting Ms. Patricia Dunn at the address or telephone number indicated herein.

FOR FURTHER INFORMATION, CONTACT: Patricia Dunn, 301-286-9729,
Patricia.E.Dunn.1@gsfc.nasa.gov, or Kathleen Moxley, 301-286-0717,
Kathleen.M.Moxley.1@gsfc.nasa.gov.

SUPPLEMENTAL INFORMATION:

NASA has reviewed the EA for the NOAA-L and NOAA-M missions and has determined that it represents an adequate and accurate analysis of the scope and level of associated environmental impacts. The EA is hereby incorporated by reference in this FONSI.

NASA proposes to process and launch the NOAA-L and NOAA-M satellites into polar orbit to gather environmental and climate information. The POES satellites would be shipped to Vandenberg Air Force Base, California, where they would be processed and launched.

The proposed missions and the no-action alternative were examined in the EA. The no-action alternative would not fulfill the need to obtain global coverage of numerous atmospheric and surface parameters and to provide an aircraft and maritime emergency beacon system. The no-action alternative would also preclude gaining a better understanding of the causes and consequences of long-term climate variations on regional and global scales.

The launch vehicle chosen for these missions is the Titan II. Satellite size, weight, and launch vehicle availability drove the vehicle selection. The Titan II was specifically developed for placing satellites such as NOAA-L and NOAA-M into Low Earth Orbit and has a track record for launch success. It is considered a logical choice for these missions. Vandenberg was chosen as the launch site because of the desire to meet the science objectives via a polar orbit.

The environmental consequences of the pre-launch processing and launching of the satellites were considered. The possible environmental impacts that were considered included, but were

not limited to, air and water quality impacts, land resources, noise, marine and biotic resources, cultural and historic resources, socioeconomic effects, hazards, and launch debris. The areas of potential impact included those areas involved in the pre-launch processing and launching at Vandenberg Air Force Base. Expected impacts to the human environment arise almost entirely from activities associated with the launch of the Titan II, which would be short term and not substantial. There would be no impact on threatened or endangered species or critical habitat, cultural resources, wetlands or floodplains. Hazards associated with POES have been analyzed and do not raise any environmental concerns. The missions involve the use of minute quantities of radioactive material for pre-flight calibration (occurring completely on the ground) and pose no hazard to personnel or the environment. No other environmental issues of concern were identified. The activities involved with these missions are within the normal scope and level of operations at the site.

Both the proposed missions and the No-Action Alternative were examined in this EA. The No-Action Alternative would preclude scientists from gathering important information concerning the Earth's atmosphere, its surface and cloud cover, including Earth radiation, atmospheric ozone, aerosol distribution, sea surface temperature, vertical temperature and water profiles in the troposphere and stratosphere; measurement of proton and electron flux at orbit altitude. It would also prevent the use of remote platform data collection and participation in SARSAT.

On the basis of the NOAA-L and NOAA-M EA, NASA has determined that the environmental impacts associated with the missions would not individually or cumulatively have a significant impact on the quality of the human environment.

A.V. Diaz
Director

Date